

5-17-'07 15:48 FROM-



Certificate of Test



 * RE-CERTIFICATION *

HEAT E70451 ORDER 0492351/001 SON D63820 BOL 0145083 TAG 1876353 09/17/07

SHIP TO:
 A. M. CASTLE METALS
 3400 NORTH WOLF ROAD

FRANKLIN PARK IL 60131

----- YOUR ORDER & DATE -----
 01-34369 9/04/07 CUST# CASTLE01 CUST TAG#IAC 14875

----- ITEM DESCRIPTION -----
 GRADE 316L/316 Country of Melt: BRI
 Size 316L HRART RND BAR 5 STD Country of Mfg.: SWE
 Ship Condition A NAFTA Country of Origin is Country of Melt

Total Bundles 1 SON Weight 2600

----- SOLUTION ANNEALED CONDITION -----
 AMS 5648K, 5653F
 SAE-AMS QQ-S-763
 ASME SA182 E04 A06 CHEM. ONLY
 ASME SA479 E04 A06
 ASTM A262 02A PRACTICE A/E
 ASTM A479 06
 ASTM A193 06A B8M
 UNS S31600, AISI 316
 AM CASTLE 3316-98 REV 28
 AMS-S-7720

----- SPECIFICATIONS -----
 FREE OF CONT. CARBIDE NETWORK
 NO WELD REPAIR
 FREE OF MERCURY CONTAMINATION
 ASME SA193 E04 A06
 ASTM A182-06 CHEMISTRY
 ASTM A276 06
 ASTM E112 96
 DIN 50049/EN 10204 3.1B
 UNS S31603, AISI 316L

----- MECHANICAL & OTHER TESTS -----
 Test Condition A
 Hardness as shipped (144 HBW)
 Hardness as shipped 77 HRBS
 Grain size 5.5
 Micro OK
 Intergranular corrosion OK
 Macro OK

Tensile strength, KSI (MPa)	84.5 (583)
0.2% Yield Strngth, KSI (MPa)	37.9 (261)
Elongation % in 4D	64.0
Reduction of area %	81.0

----- CHEMICAL COMPOSITION -----

Carbon (C)	.017	Manganese (Mn)	1.710
Phosphorus (P)	.026	Sulphur (S)	.026
Silicon (Si)	.528	Chromium (Cr)	16.410
Nickel (Ni)	10.120	Cobalt (Co)	.357
Copper (Cu)	.366	Moly (Mo)	2.070
Nitrogen (N)	.066	Columbium (Cb)	.025
Titanium (Ti)	.002	Aluminum (Al)	.004
Tin (Sn)	.010	Tantalum (Ta)	.003
Vanadium (V)	.090		.000
Columbium/ Tantalum (Cb+Ta)	.028		
Iron (Fe)	Balance		
Melt Practice	EAF		
Refining Practice	AOD		
De-long Ferrite			

CASTLE METALS CORP.
 DATE RCVD 9/17/07
 IAC 14875
 APPROVED BY [Signature]

Knowingly & willfully falsifying or concealing a material act on this form, or making false, fictitious or fraudulent statements or representations herein could constitute a felony punishable under federal statutes.

We hereby certify that the test results shown in this report are correct and accurate as contained in the records of the company and are in compliance with the specifications, codes, and standards listed above.

M.F. Marcanio